

**MEDICAL DIAGNOSTIC ULTRASOUND INSTRUMENT WITH ECG  
MODULE, AUTHORIZATION MECHANISM AND METHODS OF USE**

**ABSTRACT OF THE DISCLOSURE**

A handheld ultrasound instrument is disclosed having enhanced diagnostic  
5 modes including pulse/continuous wave Doppler, time-motion analysis, spectral analysis and  
tissue harmonic imaging. An external electrocardiograph (ECG) recording unit is also  
disclosed. The ECG unit is adaptable to be used with the handheld ultrasound instrument to  
provide for ECG monitoring while performing an ultrasound scan in B-mode, Doppler, color  
Doppler, M-mode, and CW/PW mode. The enhanced handheld ultrasound instrument further  
10 includes a security mechanism allowing any combination of the diagnostic modes to be  
enabled by the manufacturer, and later to enable or disable any one or group of the diagnostic  
modes. The invention also discloses a method for a manufacturer to maintain a database of  
handheld ultrasound instrument capabilities after the instruments enter the stream of  
commerce.

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